Proposed new chapter - "Requirements for surveillance for international recognition of freedom from infection"

A. International Recognition of Freedom from Infection

1. General principles

General Comment:
Many types of viral infections may be very pathogenic to some host species while in others cause little or no clinical disease or mortality. For example, Infectious Heamatopoetic Necrosis (IHN) is a serious disease of rainbow trout, of Atlantic salmon and of sockeye salmon, but is of little or no consequence in coho salmon; however, the coho salmon and its eggs could be a vector of infection. Therefore, the Fish Diseases Commission (FDC) needs to address this concern under the listed principles of this Chapter.

2. Requirements to declare a country/zone/facility free from infection with a specified pathogen

2.2 Historically free

Current FDC proposal reads as follows:

"Unless otherwise specified in the relevant disease chapter, a country, zone, or aquaculture facility may be recognized as being free from infection without formally applying *targeted surveillance* when:

- there has never been any occurrence of disease;

or,

- eradication has been achieved or disease has ceased to occur for at least 25 years,

provided that the *prescribed biosecurity conditions* have been in place continuously in the country, zone or aquaculture establishment for at least the previous 10 years."

General Comment:

The United States is concerned proposes that only the FDC a declaration of freedom by a given country for a given disease agent be sufficient for freedom recognition without having to do any targeted surveillance. The field of aquaculture is a relatively young

industry, and therefore, the routine monitoring of diseases that affect aquaculture species is also new. Furthermore, the epidemiology of disease agents in aquaculture is complicated by the following factors:

- sub-clinical carriers could exist in wild or feral populations and pose a risk to cultured stocks directly by water supply and indirectly by fomites and vectors such as avian or terrestrial predators. This risk is not adequately evaluated by most competent authorities, particularly if there has not been any historical reporting of the disease.
- aquatic animal health surveillance is new to most countries of the world, and hence, the data gap is significant. The competent authority may be declaring freedom of a disease in the bliss of ignorance.
- without targeted surveillance of cultured stock, sub-clinical infections would go undetected and lead a competent authority to conclude that its country is "free from the pathogen". Viral pathogens are known to be transmitted by carrier hosts without affecting such hosts. Several years of on-going surveillance coupled with strict bio-security procedures, are required to attain "free" status.

3. Guidelines for the maintenance of continued recognition of freedom from infection

General Comment:
As described in our comments above, given the internal and external factors impacting a country/zone/facility and the existence of sub-clinical carriers, declaring "freedom" without some level of targeted and ongoing surveillance is not acceptable.

B. Targeted surveillance for demonstration of freedom from infection

General Comment:

Section 1 (Introduction) and Section 2 (General Principles) present adequate language for the intent of the overall section on surveillance. However, Section 3 (Requirements for Demonstration of Freedom from Infection) appears to attempt to provide a short course in analytical epidemiology and sampling methodologies. There are too many epidemiological terms that need defining (i.e. clustering, statistical independence, stratification, stochastic modeling, etc.) and concepts that need explaining, and are better left to the epidemiologists. The chapter attempts to cover the broad field of sampling methodology in a few pages. The Diagnostic Manual is not the venue for such an endeavor. A better approach under this section would be to simply provide references of well known literature in analytical epidemiology.